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THE UNIVERSITY OF ALBERTA

Personality and Symptomatological Features in Subclinical Anorexia: Risk Factors

by

Yvonne Lee Buchanan

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF Master of Education

IN

(Counseling Psychology)

Educational Psychology

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Fall, 1987

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Personality and Symptomatological Features in Subclinical Anorexia: Risk Factors submitted by Yvonne Lee Buchanan in partial fulfilment of the requirements for the degree of Master of Education in (Counseling Psychology).

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Supervisor

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Date. September 2 . 1987 . .

ABSTRACT

The present study tested and compared 25 Weight-Preoccupied females to 25 normal female comparisons, on personality and psychological variables, and on attitudes toward weight and eating. Weight-preoccupied subjects were selected on the basis of scoring within the anorexic range on the Eating Attitudes Test (EAT) (Garner and Garfinkel, 1979). They were of normal weight, not diagnostically anorexic, and were assumed to represent subclinical or at risk cases for anorexia nervosa. Personality and psychological variables assessed included: Drive for thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Interpersonal Distrust, Perfectionism, Interoceptive Awareness, and Maturity Fears, as measured by the Eating Disorder Inventory (EDI) (Garner, Olmsted, and Polivy, 1983). In addition, Self-Esteem was measured by the Index of Self-Esteem (Hudson and Proctor, 1976), and Obsessive-Compulsiveness, by a subscale of the Symptom Distress Checklist (SCL) (Derogatis, Lipman, and Covi, 1973). All variables were considered characteristic of clinical anorexia nervosa, and identifiable as risk factors for its development.

Results from *t*-tests indicated the Weight-Preoccupied group had a greater drive for thinness, more bulimic tendencies, greater body dissatisfaction, a greater sense of ineffectiveness, a stronger drive for perfectionism, and displayed more interoceptive awareness. At the same time they expressed degrees of clinically meaningful low self-esteem and obsessive-compulsive characteristics, not evident in their normal comparison peers. Findings suggested that some weight-preoccupied females experienced concerns and attitudes regarding eating and weight, characteristic of anorexia. Similarly, they displayed

greater degrees of psychopathology associated with anorexia, than did their normal peer comparisons. Results emphasized the value of multidimensional evaluations to identify risk cases for anorexia. In addition, results emphasized that a focus on weight and weight-related issues in isolation, cannot identify those at risk for anorexia. The implications of these findings for practitioners and researchers are discussed.

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I. INTRODUCTION

A. Overview of the Problem

Anorexia Nervosa is a potentially life threatening eating disorder of major medical concern. Reports of epidemiological data have attested to its increasing prevalence, affecting 1:200 adolescent females and women (Crisp, Palmer & Kalucy, 1976; Ferguson, 1982), to 1:100 upper middle class girls (Creswell, 1980). In Canada alone approximately 5 percent or 50 thousand young women between 14 and 24 years of age are said to currently suffer from an eating disorder. At the same time, researchers have purported that an additional 2 million women may be 'at risk' for the development of serious eating difficulties (National Eating Disorder Information Centre, 1985). While sex ratios reported in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (Americal Psychiatric Association, 1980) indicate that anorexia nervosa affects women 95 percent of the time, recent research has emphasized that anorexia does occur in males (Fichter, Daser, Postpischil, 1985). It is estimated that although the occurrence rate for males is approximately 12 times less than that for females, it is more prevalent than has generally been appreciated. Recent study has illustrated that physical symptoms and psychological profiles are strikingly similar (Fichter et al).

It has been postulated that western society potentiates a strong link between cosmetic dieting and changed attitudes to weight and eating, the final stage of which is anorexia nervosa (Fries & Nillius, 1973). Specifically, anorexic-like appearance and behaviors have become fashionable and normative in an age and culture concerned with thinness.

Sociocultural pressures to diet have promoted stereotypic ideals of thinness and success as synonymous (Lawrence, 1984). The claim has been made that the 'thin' fashion ideal has increasingly become a "sociocultural epidemic" (Bruch, 1978). Such ideals are said to "indirectly affect vulnerable adolescents who come to believe that weight control is equal to self control, and will lead to beauty and success" (Garner, Garfinkel, Schwartz, & Thompson, 1980, p. 484). Particularly evident, is "the model of the successful woman who is always portrayed as slim" (Lawrence, p. 206).

Although there has been a tendency to associate the current value system as responsible for the emulation of physical ideals (Bruch, 1981; Garner et al, 1980), these standards have spanned previous generations. Approximately thirty years ago researchers acknowledged the lethality of the elusive 'ideal female figure'. At that time Jourard and Secord (1955) reported that such images "produce self hate, guilt, and insecurity when it is not fulfilled, [which accounts] for the widespread efforts among young women in American society to mold and sculpture their bodies toward the ideal by corsetry, exercise, and camouflage" (p. 246). Despite evidence that 'thinness' is not a new value/ideal, there has been a "gradual but definite evolution in the culturally ideal body shape for women over the past 20 years" (Garner et al, p. 489). Between the years 1959 and 1979 researchers report that the ideal standard of beauty has become notably thinner. Comparison of weight data from Miss America Pageants has shown that both contestants' and Pageant winners' weights have declined each year. In addition they report that while the winners have not weighed less than the average contestant overall, data since 1970 show that winners have weighed dramatically less than

contestants. What this supports is that ideal shape and female role models have become thinner. We can only speculate that such a trend has exerted pressure on many women to diet.

Currently what has become increasingly evident, is the existence of dieting per se as a universal activity amongst adolescent girls and women (Solyom, Freeman & Miles, 1982). A survey of various women's magazines has shown that between the years 1959 and 1979 the number of diet articles has increased steadily. The increase in numbers since 1970 is reported as dramatic (Garner et al, 1980). At the outset, dieting appears 'normal' and may be an attempt to achieve some semblance of normalcy. In time, and for those 'psychologically vulnerable', the outcome may be fatal (Bruch, 1981). Dieting may in fact become characterized as a "relentless pursuit of thinness" (Bruch, 1978, p. ix). With these realities in mind, the frequency of occurrence and potential lethality of anorexia nervosa needs to be understood and taken seriously. Reports of morality rates approximated between 7 and 15 percent of the anorexic population (Small, Madero, Teagno, and Ebert, 1983), while figures which include death due to complications of anorexia, are reported between 15 and 21 percent of anorexics (DSM-III) (American Psychiatric Association, 1980).

B. Underlying Assumptions

Anorexia nervosa has been characterized as a "spectrum disorder" (Swift and Stern, 1983). It is said to exist in varying degrees of severity throughout the general population, and to manifest itself in various presentations. The presentations range from normative concern with dieting and weight, to more extreme and severe symptomology and

psychopathology, associated with clinical anorexia. Accordingly, the hypothesis has been made that anorexic-like concern and preoccupation with weight/diet and appearance range from a culturally normative concern, to an "intensely morbid preoccupation" (Swift & Stern, p. 18). The latter has been used to describe the hospitalized anorexic. It has been estimated that between 25 and 50 percent of the adolescent female population in various western countries convey anorexic-like concern (Swift & Stern). In addition, these same women perceive themselves as fat (Swift & Stern). Further, Swift & Stern stated that an additional 10 percent of 18 year old females can be defined as "restrained eaters" and report being on a diet at one time. More recent and alarming statistics have shown that of 500 girls between grades 4 and 12 studied, nearly 50 percent of the 9-year-olds and about 80 percent of the 11-year-olds, reported to already be dieting (Smith, 1986). While every report of dieting does not necessarily refer to serious and/or dangerous behaviors, the seed for some difficulty may exist.

In a society that is influenced by aesthetic ideals, such wide pervasiveness of dieting amongst women (Garner & Garfinkel, 1980) comes as no surprise. Similarly the existence and desire for self improvement and change is not a surprising reality. There is nothing inherently wrong with the desire for self improvement or enhancement. However when self improvement both begins and ends with weight loss, and when inflated expectations about improved life are inextricably bound to weight loss and diet, difficulties become imminent (Bruch, 1981). In the most severe form, dieting becomes "self-annihilative" (Levy, 1977). "When the planned lower weight is reached, it proves to be 'not enough' because much more than weight loss has been expected ... No manipulation

of the body and its size can possibly provide the experience of self-confidence, self-respect, or self-directed identity" (Bruch, p. 213).

If we conceptualize anorexia nervosa as a 'spectrum disorder' we acknowledge that varying degrees of severity and eating/weight concerns will exist in the general population. Although researchers have tended to limit their focus to young women and adolescent girls (Strober, 1981), concerns with and preoccupation with weight are not exclusive to the younger generation. Adult women have clearly defined "templates" of the ideal extremely thin female figure. The result of this image often-times has lead to self-criticism (Fallon & Rozin, 1985; Rodin, 1985; Striegal-Moore, Silberstein, & Rodin, 1986). Concomitantly, a recent longitudinal study (Rodin) of persons over 62 years of age has shown that while men rarely expressed concerns with weight, women reported change in body weight as their second greatest personal concern. Although the existence of long range study is limited, Stiegal-Moore et al have posited the observation that womens' physical and psychological "battle with weight ... lasts a lifetime" (p. 252). If this is so, the existence and challenge of eating/weight concerns becomes even more distressing.

Again if we conceive of anorexia nervosa as a spectrum disorder, we must also be aware that the potential and range for difficulties is polymorphous. It further suggests that as researchers and practitioners we must be ready to intervene. A recent and comprehensive study of Canadian males and females has yielded concerning results regarding the prevalence of maladaptive eating attitudes in the school-aged population (Leichner, Arnett, Rallo, Srikameswaran, & Vulcano, 1986). Researchers

gathered information from well over 4 thousand persons between 12 and 20 years of age and found dramatic concerns expressed about eating and body weight. Subjects were assessed by an instrument (Eating Attitudes Test, EAT) (Garner and Garfinkel, 1979) which has been used as an index of symptoms associated with eating disorders. It is a useful instrument, but using it alone does not equal the diagnosis of anorexia. However, the EAT has been used extensively to identify attitudes suggestive of actual, incipient, or early developing cases of eating disorders (Button & Whitehouse, 1981; Garfinkel, 1981; Garner & Garfinkel, 1980).

C. Background to the Study

Previous reports have suggested that about 10 percent of 'normal' women score in the anorexic range on the EAT. What this means is that "many women experience the preoccupation with weight, and the forms of behavior associated with anorexia nervosa, without becoming extremely emaciated" (Button & Whitehouse, 1981, p. 514). In the results recently obtained (Leichner et al, 1986), 5.7 percent of the total male sample and 22.3 percent of the total female sample exceeded the established criterion for 'normal' scores. Of the female sample who scored in the anorexic range, 16.8 percent were between 19 and 20 years of age. Given the "potentially alarming prevalence of maladaptive eating attitudes in this young population" (Leichner et al, p. 980) there is reason for concern. The cited prevalence is excessively higher than statistics reported in previous studies. As we continue to witness results as such, and simultaneously consider that rates of dieting and anorexia nervosa are high and reportedly increased, the need for questions is immediate. Are we approaching a point when the time between being on a diet and

having a potentially fatal eating disorder will diminish? What distinguishes the common desire for thinness from the debilitating drive for thinness? Charcot once said: "there is a momentum between health and illness, where everything depends on personality" (Solyom et al, 1982, p. 285).

The identification of anorexic symptoms in females without excessive weight loss (Garfinkel, 1981; Garner, Olmsted, Garfinkel, 1983; Swift & Stern, 1983) has expanded upon the knowledge and direction for treatment of anorexia nervosa. Preoccupation and/or dissatisfaction with weight and shape cannot alone explain anorexia. It may, however, be a precursor (Button & Whitehouse, 1981; Garner, Olmsted, Polivy & Garfinkel, 1984; Huon & Brown, 1984). Dieting has become a widespread phenomenon amongst young females and women. And, dieters and weight-conscious individuals experience certain symptoms similarly to anorexic persons. Only a relative few however become diagnostically anorexic. If we accept the continuum hypothesis that has suggested that the "difference between weight-preoccupation, intense or prolonged dieting, and anorexia nervosa, is only a matter of degree of illness ... then every weight-preoccupied woman is at risk to become a true anorexic" (Vandereycken and Meerman, 1984, p. 193). In this respect we may be referring to a dangerously large proportion of the young female population. "A significant presence of maladaptive attitudes [in the normal population] about body weight and eating, previously found to be associated with anorexia nervosa and bulimia is reason for concern and for further investigations" (Leichner et al., 1986, p. 980).

New and innovative approaches to anorexia nervosa and eating disorders are in order (Button & Whitehouse, 1981; Garner, Olmsted, &

Garfinkel, 1983; Garner, Olmsted, Polivy, & Garfinkel, 1984; Vandereycken & Meerman, 1984; Strober, 1980; Swift & Stern, 1983). As researchers and practitioners have continued to search for cures and understanding of anorexia nervosa, society has witnessed a simultaneous increase in the numbers of dieters and potential risk victims (Creswell, 1980; Crisp, Palmer, & Kalucy, 1976; Garner et al, 1980; Leichner et al, 1986; National Eating Disorder Information Centre, 1985; Smith, 1986; Solyom, Freeman, & Miles, 1982; Swift & Stern). To date the primary focus has been reliance on treatment orientations, and assessments of anorexia after-the-fact. These have often produced results described as frustrating and inadequate (Vandereycken & Meerman). What has been suggested, is that hindsight research designs are no longer acceptable, and in fact they leave lives needlessly at risk. Preventative approaches acknowledge the need to intervene before a pathway approaches the extreme - specifically before a clinical diagnosis of anorexia nervosa. Preventive approaches offer the hope-filled "possibility of intervening in the causal chain at an earlier stage" (Vandereycken and Meerman, p. 191). What research has continued to illustrate is that actual cases of anorexia nervosa may be "regarded as very much the tip of the iceberg with respect to excessive weight concern among young females" (Button and Whitehouse, p. 514-515). In this sense, the possibilities of preventive measures merit serious consideration. In order to approach such an orientation and to successfully intervene prior to anorexia per se, attention must be directed towards 'causation'.

What causes anorexia nervosa? "When does dieting or weight reducing risk crossing the danger point of deterioration in an anorexic direction" (Vandereycken and Meerman, 1984, p. 213)? Being on a diet, or

considered a dieter does not unequivocally cause anorexia or an eating disorder. Likewise, although current cultural values idealize thinness and must be considered as instrumental, "cultural influences do not really cause serious eating disorders ... Culture is mediated by the psychology of the individual as well as the more intimate social context of the family" (Vandereycken and Meerman, p. 194). Although researchers have acknowledged that dieting alone does not equal anorexia, they have recognized that "being a dieter seems to be a major part of the constellation of personal and situational factors that put one at risk" (Polivy and Herman, 1986, p. 328). It follows then that much attention and blame has been directed at sociocultural and moralistic pressures that have promoted thinness and dieting as normative and ideal (Bruch, 1981; Garfinkel, 1981; Garner et al, 1980; Wooley, Wooley, and Dyrenforth, 1979).

A comprehensive model of prevention will need to address social, familial, and individual characteristics, where any or all may predispose or protect for anorexia nervosa. What is important to recognize is that as a clinical illness, anorexia nervosa describes a heterogeneous group of persons. In terms of personality functioning alone, intragroup variability is evident. As Strober (1981) stated: "it would be an oversimplification to regard this group as homogeneous" (p. 294). Thus a 'multiple risk factor model' is needed in order to understand and intervene in anorexia treatment (Garfinkel, 1985). Simultaneously if we consider that eating and weight concerns span a diverse continuum between normal dieting and diagnostic anorexia, the number of factors and potential risks to be considered is increased. Given that anorexia represents a heterogeneous group of people, we can

assume then that persons along the continuum also represent a heterogeneous and diverse group. In acknowledging this, the demand for a multiple risk factor model is increased. Accordingly, in this study a specific instrument will be used which will help specify where subjects fall on the continuum between normal dieting and diagnostic anorexia. Subjects utilized will range from persons pinpointed as at risk for anorexia, as well as persons not pinpointed and considered at risk for the development of anorexia nervosa.

Realistically, to change sociocultural influences and psychosocial stimulus is an improbable task. Striegal-Moore and associates (1986) have suggested that risk factors such as social values do not easily lend themselves to modification. It is claimed that any large-scale changes will be slow and difficult to effect. Vandereycken and Meerman (1984) have supported the observation and further stressed that "it appears almost impossible for health care professionals to change such sociocultural influences ... Therefore preventive measures should be directed at some more specific risk factors for the development of anorexia nervosa" (p. 196). Preventive measures will also be needed to identify more specific risk factors to differentiate the differing degrees along the continuum of eating and weight disturbance. It may be that while some dieters and weight-preoccupied individuals resemble anorexic persons in psychological disturbance, others only superficially resemble anorexic individuals (Garner et al, 1983). Given that anorexia is considered a multifaceted phenomenon with somatic and psychological characteristics, research will need to assess psychological symptoms which purportedly precede the onset of intital dieting (Hood, Moore, and Garner, 1982). Investigation of "pre-existent psychological

vulnerability" (Strober, 1981, p. 286) amongst weight-preoccupied individuals who may be at risk for anorexia, deserves immediate attention. Research directed towards prevention, intervention, and amelioration, is imperative. This is especially urgent as increased numbers make their way along the continuum between normal dieting and having a potentially fatal eating disorder. In accordance, this study is an attempt to meet these demands, and will compare persons at risk for anorexia to those not considered at risk for the development of anorexia. Specific personality factors purported as fundamental to the development of anorexia will be identified and assessed. By doing so this study will provide an opportunity to examine for potential 'pre-existent psychological vulnerability' in those at risk for anorexia. In addition it will allow for comment upon certain personality features as potential factors which put one at risk for the development of anorexia nervosa.

Knowledge regarding the personality dynamics of anorexia nervosa and the specificity of factors which account for the heterogeneity amongst peoples along the continuum (between normal dieting and a clinical eating disorder), is limited. Garner and Bemis (1982) have suggested that "many of those who will become anorexic are different from their peers in characteristic ways by the time they reach adolescence" (p. 125-126). What they have recognized, is that while psychological themes vary, common issues are evident (Garfinkel, 1985). It has also been proposed that such commonalities may exist and be evident prior to the onset of any eating/weight disturbance. Strober (1981) has reported the observation that "contemporary writers agree that anorexia nervosa is rooted in various constellations of

pre-existent psychological vulnerability" (p. 286). It follows then that the pursuit of risk factors, and the development of interventive approaches, warrant considerable attention. This study will direct itself to these concerns by identifying specific factors considered to put one at risk for anorexia. Individuals pinpointed to function at different points along the continuum (one group considered 'normal', and one considered subclinical or at risk for anorexia) will be assessed. The degree to which specific factors associated with clinical anorexia are manifest in subclinically anorexic individuals, will be assessed. By acquiring insight into the degree and existence of factors at a pre-anorectic stage, this study will facilitate interventive possibilities and approaches.

The void in current knowledge and understanding of risk factors and 'preexistent psychological vulnerability', can in part be accounted for by the direction that much research has taken. Researchers have tended to focus upon chronic anorexics, where results have been potentially confounded by a multiple of variables. These have included effects of hospitalization, large variance in age of subjects, different duration of illness and treatment experiences amongst subjects, and the lack of suitable comparison groups (normal and non-chronic). Perhaps more instrumental in the limits to current knowledge, has been the inability to recapture details regarding the previous lives of anorexics, and the development of their illness. When researchers tend to rely solely on chronic anorexics for information regarding risk factors, it is hard to control for the possible effects of prolonged illness and nutritional imbalance (Strober, 1981). Research designs which control for length of illness, age at onset, and previous

treatment experiences, must be implemented. In addition, comparative research utilizing non-chronic samples of various ages, is necessary. Finally, research designs which utilize cluster analysis will facilitate knowledge regarding the homogeneity and heterogeneity of persons both 'at risk' and diagnostically anorexic. In this study the author will utilize both a group of normal female subjects, and a group of female subjects considered at risk for anorexia. Groups will be comparable in age, with no evidence nor history of an eating disorder amongst subjects. By identifying a group of persons potentially at risk for anorexia, but not clinically anorexic, the study surpasses the limitations of previous studies. This study will allow a more direct assessment and examination of potential risk factors fundamental to the development of anorexia nervosa.

It would be an oversimplification to assume that studying one point along the continuum of eating/weight disturbance could meaningfully depict a broad range of people. Presumed 'mild' cases of anorexia nervosa must also be evaluated in both psychological and behavioral or dieting terms. Garner, Olmsted, and Garfinkel (1983) have suggested that certain personality features of anorexia are shared with weight-preoccupied persons. Concomitantly, other traits are said to differentiate the two groups. What is needed, is comprehensive study and designs, which utilize persons functioning at variable degrees along the continuum of anorexic-like concern. Button and Whitehouse (1981) have emphasized that "clearer understanding of anorexia nervosa may result from more detailed examination of the broader group of people with problems of weight concern" (p. 515). Similarly, there has been a tendency and weakness in previous research to focus on single symptoms

or single factors, versus more multidimensional evaluations. Garner et al., (1984) have acknowledged that the focus on single symptoms and the use of aggregate statistics alone, may obscure meaningful idiographic or subgroup differences. In recognition of these limitations and needed changes, this study will utilize subclinical or at risk for anorexia subjects, and compare them to 'normal' subjects. In addition, a more comprehensive design than used in previous studies will be adopted. The author will focus upon behavioral and attitudinal weight-related factors associated with clinical anorexia, as well as focus upon several personality factors characteristic of diagnostic anorexia. The design will allow for multidimensional evaluations, and will provide information about similarities and/or differences between anorexics, persons at risk for anorexia, and normal persons, on a myriad of factors.

Weaknesses in our knowledge and understanding have also stemmed from limited attempts to obtain objective psychometric data on clinically meaningful and predictively important psychological/personality trait measures (Strober, 1981). At the same time there has been little comparison between patients and non-patients in an attempt to understand risk factors in anorexia. Huon and Brown (1984) have reported that "many authors ... emphasize a need to understand risk factors in anorexia nervosa. But only a few comparisons between patients and non-patients have been published ... None have selected non-patients on a specifically attitudinal or behavioral criterion aligned with the weight control which characterizes the illness" (p. 161). This study has done just this, and will utilize subjects pinpointed as at risk for anorexia on the basis of behavioral

and attitudinal factors associated with anorexia. A specific instrument will be used to identify persons with scores similar to anorexic persons on the above mentioned criteria, while not meeting a diagnosis of clinical anorexia nervosa.

Body weight and the desire for low body weight do not adequately differentiate the anorexic from the weight-preoccupied person. Likewise and to a lesser degree, body weight and the desire for low body weight do not adequately differentiate the anorexic person from the normal dieter. Such observations have lead researchers to investigate for distinguishing factors. Clearly, researchers have not been able to meaningfully identify anorexic or 'at risk' individuals on the basis of physical symptoms alone. While factors like percentage of weight deviation from the norm, and presence of amenorrhea, describe the physical aspects of clinical anorexia, they contribute little to the understanding of psychologic difficulties. What Garner et al (1984) have suggested, is that "anorexic symptoms ... may reflect a similarity between extreme dieters and anorexic patients on food and weight issues, without revealing possible disparities in other areas of psychological functioning" (p. 256). What about personality characteristics and psychological functioning? Do anorexic persons represent a distinct diagnostic entity, or merely a different point along the continuum, with similar but more extreme traits? This study will direct itself toward such questions, by examining a group of persons at a less extreme point along the continuum. A group of at risk for anorexia subjects and a group of normal subjects will be compared. Not only will issues of food and weight be examined, but groups will be compared on personality characteristics and psychological functioning. Assessment of multiple

factors in persons at risk for anorexia will allude to similarities and/or differences with clinically anorexic persons. Comparisons between persons at risk for anorexia and normal comparisons, will provide information about factors which may be pinpointed to put one at risk for the development of clinical anorexia nervosa.

Various researchers have posited psychological theories to distinguish the anorexic person from the weight conscious person and the dieter (Bruch, 1978; Garfinkel and Garner, 1983; Woods and Heretick, 1983-1984). To date, research has shown that chronic dieters or weight-preoccupied persons are indistinguishable from anorexic persons on behaviors and attitudes to eating. Little is known however, about the psychological orientation of persons defined as weight-preoccupied (Button and Whitehouse, 1981; Garner et al, 1983; Garner et al, 1984; Thompson and Schwartz, 1982, 1982). If we assume that weight-preoccupied persons are 'at risk' behaviorally for anorexia, can we at the same time attest to psychological vulnerability/fallibility, if any, towards clinical anorexia? It may be that psychological traits in combination with behavior can differentiate and perhaps predict the onset of anorexia nervosa. Alternately, can we identify 'at risk' in terms of personality or psychological characteristics? Given that body weight and attitudes to weight and eating are not it themselves adequate to identify those at risk, does certain psychopathology precede dieting behavior? Do weight-preoccupied persons or rather does a subgroup of weight-preoccupied persons, share similar psychologic characteristics with anorexic persons? It is the author's intention to clearly address these questions. This study will utilize identified weight-preoccupied (at risk for anorexia) persons, and will assess psychological and

personality features which have been associated with anorexia nervosa. This study will allow for the assessment of psychopathology which may precede excessive dieting behavior. In addition it will allow for hypotheses on factors which put one at risk for diagnostic anorexia.

The ultimate aim for researchers and practitioners is to intervene in and ameliorate a phenomenon which has continued to reach dangerous and epidemic proportions. While anorexia is in itself potentially fatal, it would appear from the literature that a large number of weight-preoccupied persons face similar possibilities. If we are to expand upon the knowledge and understanding of anorexia nervosa, and particularly, knowledge of those at risk for the development of anorexia nervosa, both questions and answers must continue to be addressed. It has been the author's purpose to begin and potentiate such a challenge.

II. REVIEW OF RELATED LITERATURE AND RESEARCH

A. Introduction

Understanding anorexia nervosa as a clinically significant illness is to date incomplete. However, relative to the existent knowledge regarding specific risk factors, and relative to understanding the psychological orientation of persons potentially at risk for anorexia, the former body of knowledge is extensive. In terms of the general population in Canada and the United States, researchers have reported that between 5% and perhaps as high as 20% of normal women, convey behaviors and attitudes regarding weight/eating issues that are similar to anorexic persons (Button & Whitehouse, 1981; Garfinkel, 1981; Leichner et al, 1986; Swift & Stern, 1983; Vandereycken & Meerman, 1984). This suggests that the numbers of persons experiencing discontent and difficulties are extensive. Further, it implies that the time and the demand for exploration of eating-related attitudes and personality variables in persons not anorexic, is immediate.

If we adopt the continuum hypothesis where researchers have purported that a large and growing number of women are at risk for anorexia, it becomes necessary to identify, direct our energies toward, and obtain detailed information, from persons considered subclinical or at risk for anorexia. Despite the dangerously large proportion of women characterized as weight-preoccupied and perhaps as subclinically anorexic, research has only begun to explore this population. As a group they share certain characteristics with anorexic persons, however, little is known regarding their psychological orientation. By studying persons at different, and less extreme points along the eating/weight

disturbance continuum, knowledge regarding risk is enhanced. So too is our potential preventive effectiveness. As risk factors are explored and delineated, the status of current knowledge and its weaknesses, as well as specific demands for further research, becomes apparent. It becomes possible to assess factors primary and predictive for anorexia itself, rather than factors secondary to nutrition/starvation, and/or byproducts of a serious illness. Empirical assessment of persons at less extreme points along the multifaceted continuum invites understanding of the dynamics which put one at risk, and perhaps factors that protect against the induction of clinical and chronic anorexia.

Accordingly, in this study the author will utilize persons pinpointed as subclinically anorexic, and who fall at a less extreme point along the continuum of eating and weight concern than clinically anorexic persons. While subclinical and clinical anorexic persons share similar attitudes and weight-related issues, the subclinical group does not manifest the extreme weight loss and symptomatology associated with diagnostic anorexia and illness. In this study a host of behavioral, attitudinal, psychological, and personality factors, characteristic of clinical anorexia, will be selected. A subclinical anorexic group and a normal comparison group will be examined. This will facilitate our ability to pinpoint specific factors as primary to putting one at risk for anorexia. In addition, this will enhance our ability to speculate as to whether factors reflect byproducts of illness and a clinically diagnosed eating disorder.

Following is an exploration of the research done thus far as it directly relates to this particular study. The idea that anorexia exists as a 'spectrum disorder' and that varying degrees of severity and

eating/weight concerns exist in the general population (Swift & Stern, 1983), remains central to this study. The premise is that anorexia manifests itself in various different presentations which range from normative concern with dieting and weight, to more extreme presentations of symptomatology associated with clinical anorexia nervosa. In other words, eating and weight-related issues characterized as anorexic-like concerns, spans a diverse range between normal, subclinical, and clinically anorexic persons. Some weight-preoccupied and anorexic persons share similar weight-related attitudes and concerns, while the same degree of concern is not evident in normal comparisons (Garner, Olmsted, and Garfinkel, 1983; Garner, Olmsted, Polivy, & Garfinkel, 1984). In this study the author will expand upon the continuum hypotheses, and assess whether a continuum of weight-related concerns in the general population is parallel to the existence of a continuum of personality and psychological factors associated with clinical anorexia. Specifically, to assess whether personality/psychological factors characteristic of diagnostic anorexia, also exist in varying degrees along the continuum of eating and weight concerns. In addition, whether certain factors can be pinpointed as primary to 'risk', and fundamental to the development of clinical anorexia.

B. Continuum Hypothesis

Nylander (1971) originated the hypothesis that symptoms of anorexia occur along a continuum. As a clinical syndrome, anorexia represents one extreme end-point. While the conceptual theory of the continuum hypothesis has been adopted, few researchers have specifically untilized sub-clinical populations to empirically study the process

underlying the development of anorexia. Consequently, identification of specific factors associated with risk has been limited.

Button and Whitehouse (1981) administered the Eating Attitudes Test (EAT) (Garner and Garfinkel, 1979) to N = 50 male and female students attending a technical college. The EAT provides an objective index of behaviors and attitudes meaningfully related to anorexia. It is said to assess a broad range of behaviors and attitudes characteristic of anorexia. At the same time, the EAT is considered able to discriminate between anorexic and normal females (Garner and Garfinkel, 1980; Pumariega and La Barbera, 1986). Subjects who scored highly and in the anorexic range on the EAT were interviewed to control against any persons meeting a diagnosis of anorexia. These subjects consisted of N = 28 'subclinical' cases. Researchers then compared the subclinical group to N = 14 female anorexic controls and N = 28 randomly chosen non-high-EAT female students.

Results of the EAT analysis indicated that all high EAT scorers were female and conveyed a wide range of anorexic symptoms. In some instances these same symptoms were completely absent in the student controls. For example, 62% of anorexics and 36% of high-EAT scorers utilized means to avoid eating as compared to 0% of normal controls. Similarly 62% of anorexics and 32% of high-EAT scorers utilized detailed calorie counting as compared to 0% of normal controls. Further analysis of the high-EAT subjects revealed heterogeneity amongst the group. Subjects ranged from N = 5 normal dieters to the remaining N = 23 manifesting a number of anorexic symptoms. This included considerable preoccupation and concern with weight. While the high-EAT group also varied in actual weight and deviation from average weight (overweight

and slightly below), comparison to low-EAT controls revealed no differences in present weight. Anorexics were not surprisingly comparatively lower in actual weight, and they themselves were extremely heterogeneous. They differed in duration of illness, treatment experiences, and current status of anorexia.

Button and Whitehouse (1981) demonstrated that "a substantial proportion of post-pubertal females develop a sub-clinical form of anorexia" (p. 509). However, they limited their results by failing to examine beyond the overt symptomatological surface to address the personality within. They purported that "dieting is one rather likely way in which young women may attempt to exert control in the context of poorly construed interpersonal experience" (p. 515) but neglected to substantiate their claim with empirical assessment. Examination of persons potentially at risk for anorexia is necessary, but behavioral and attitudinal analysis are not sufficent. Results suggest that a number of normal weight females experience symptoms similarly to anorexic persons, yet they delimit their impact by failing to assess essential psychological variables and differences. In order to gain a clear picture of functioning at different points along the continuum, it is important to pinpoint relatively controlled and internally consistent groups. Given the wide discrepancy amongst the subclinical population, it is difficult to make solid statements regarding dynamics and functioning. Similarly, it is difficult to make meaningful comparisons to anorexic persons when patients vary dramatically in treatment, chronicity, and illness related factors. What researchers did accomplish however was to recognize and in turn, promote the need for detailed study of a population characterized as subclinically anorexic. They

identified the need to firstly detect potential subclinical or at risk cases, and to secondly attend to the possibilities of interventive and preventive measures. It follows then, that in this study the author will identify a group of persons at risk for the development of anorexia. In line with what has been mentioned, subjects will not only be assessed on attitudinal and behavioral weight-related factors, but on psychological and personality characteristics. By providing a more detailed and comprehensive account of persons at risk for anorexia, specific factors indicative of risk may be pinpointed. This will potentiate the interventive and preventive measures which are indicated to alter the onset of clinical anorexia.

Garner and Garfinkel (1980) continued with the hypothesis that eating and weight-related concerns occur along a continuum of degrees of disturbance, and exists in varying degrees throughout the general population. As has been mentioned, the premise of the continuum hypothesis is that weight-related concerns are shared by many female persons, and some persons experience a degree of concern similar to persons diagnosed as clinically anorexic. These persons who have been characterized as potentially at risk for anorexia on the basis of weight and food issues, do not simultaneously manifest other symptomatology associated with clinical anorexia. Garner and Garfinkel acknowledged the power of sociocultural pressures which encourage women to diet and emulate a thin body shape as fundamental to the continuum hypothesis. In order to delineate and assess a larger number of persons who may be at risk for anorexia, they focused on populations where body shape and weight assume attention. Like Button and Whitehouse (1981), they utilized the EAT (Garner and Garfinkel, 1979) to objectify behaviors and

attitudes related to anorexia. The EAT was also used to identify potential subclinical or at risk cases. In addition, Garner and Garfinkel utilized an instrument to assess psychological symptoms, the Hopkins Symptom Checklist (HSCL) (Derogatis, Lipman, Rickels, Uhlenhuth, and Covi, 1974). While they aimed to assess whether 'anorexic-like' symptoms were overrepresented in dance and model populations, they wished to assess whether persons who score similarly to anorexics on the EAT, are quantitatively or qualitatively different from anorexics on psychological variables.

Garner and Garfinkel (1980) surveyed five independent groups of female subjects: N = 183 dancers from three professional dance schools of differing performance levels, N = 56 fashion students from a modelling school, N = 68 hospitalized anorexic patients at varying stages of treatment, N = 35 music students assumed similar to a subgroup of dance students in degree of competitiveness, and N = 81 normal controls in second and third year university. Following appropriate consent, all participants completed the EAT (Garner and Garfinkel, 1979). Any subjects who scored 30 or over were classified within the anorexic range, and interviewed to determine if any met criterion for anorexia. The HSCL (Derogatis et al, 1974) was then administered to N = 103 of the dancers in the high performance expectation schools, to N = 31 of the anorexic sample, and to N = 55 of the normal controls.

Findings revealed that dance and model groups represented a much larger number of high-EAT scorers than the normal controls and music students, and a larger number of identified anorexic persons. Behavioral and attitudinal symptoms similar to anorexics occured in 38% of the dancers, 34% of the models, and 9% of the normal controls and music

students. Of persons identified as anorexic, $N = 12$ were dancers, $N = 4$ models, and zero from other groups. Examination of the identified cases also revealed that almost all cases developed while subjects were in their course of study. This finding offers support to the theory that cultural pressures toward diet and weight have a powerful impact. In further consideration of high-EAT subjects, Garner and Garfinkel (1980) questioned whether high scorers could be indicative of starvation effects. However, Correlations between EAT scores and weight, and EAT scores and percentage of deviation from normal weight amongst dancers disconfirmed this possibility. Scoring highly on the EAT is not simply a reflection of low body weight and limited food intake. Rather, the subtle, as well as the not so subtle emphasis upon diet and weight in one's environment, assumes a powerful and influential role. This is evident in the development of subclinical and clinical forms of anorexia nervosa.

Continuing with Garner and Garfinkel's (1980) study, assessment of psychological symptoms provided by the HSCL (Derogatis et al, 1974) revealed a significant positive relationship between a variety of psychological symptoms such as obsessive-compulsiveness and EAT scores. Both dance students and anorexic patients yielded similar positive relationships, $r = .29$, $p < .01$ and $r = .34$, $p < .05$ respectively on obsessive-compulsiveness. In comparison, normal controls did not reflect a similar relationship which suggest that certain persons who may be at risk behaviorally for anorexia, also share a constellation of psychological disturbances with those at the extreme end of the weight concern continuum. In sum what Garner and Garfinkel (1980) exemplified, was that a fair number of normal weight women possess attitudinal,

behavioral, and psychological symptoms markedly similar to anorexic persons. These "women express concerns regarding weight and food which go beyond the typical dieter's benign attempts to limit intake" (p. 653). In addition they experience similarities in other domains. While it is evident that the societal value of thinness potentiates concern with weight and shape, the possible existence and role of individual psychological and other personality characteristics as predisposing factors for anorexia, cannot be ignored. Persons at a less extreme and nonclinical point on the weight disturbance continuum manifest psychological symptoms which may reflect vulnerability to a clinical eating disorder. It is toward this possibility that the present study will focus. Accordingly, the author will examine personality and psychological functioning in persons at less extreme and subclinical points on the weight disturbance continuum. The study will be directed toward identifying predisposing factors fundamental to the development of anorexia.

It remains unclear the degree to which the continuum between normal dieting and anorexia operates as a process. Secondly, what specifically differentiates the clinical anorexic from those who may be considered subclinical at risk for anorexia? Given that anorexia can be considered a multidetermined and multifaceted phenomenon, continued research on personality characteristics as potential predisposing factors are critical. The possible significance of characteristics such as obsessive-compulsiveness deserves further consideration as does delineation and longitudinal assessment of high risk individuals.

Garner, Olmsted, and Garfinkel's (1983) research marked the first solid empirical attempt to specifically compare persons with anorexia to

weight-preoccupied women functioning at a less extreme point along the continuum. Like aforementioned studies, the two groups were comparable on behavioral and attitudinal factors reflecting degree of dieting and weight concern, but researchers surpassed others by providing more extensive study of psychological variables. Garner et al examined psychological characteristics of anorexic patients (AN), weight-preoccupied (WP), and not-weight-preoccupied (NWP) college and ballet students. They wished to assess the degree to which pursuit of thinness per se was associated with psychological adjustment and personality disturbance. Specifically they asked: How are anorexic and weight-preoccupied individuals similar and/or different?

Researchers (Garner et al, 1983) compared N = 49 female anorexic patients at the Clarke Institute of Psychiatry to N = 137 not-weight-preoccupied and N = 38 weight-preoccupied female college and ballet students. They utilized a ballet population on the basis of previous studies which showed large numbers to possess significant symptoms of anorexia without a clinical diagnosis (Garner and Garfinkel, 1980). All subjects completed the Eating Disorder Inventory (EDI)(Garner, Olmsted, and Polivy, 1983) which is a self-report instrument used to measure cognitive and behavioral dimensions characteristic of anorexia. Subscales on the EDI include: Drive for thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Interoceptive Awareness, Interpersonal Distrust, Perfectionism, and Maturity Fears.

The weight-preoccupied (WP) and not-weight-preoccupied (NWP) groups were selected and differentiated on the basis on weight concern and degree of dieting measured by the Drive for thinness (DT) subscale. All WP subjects scored at or above the anorexic subjects' mean DT score,

and NWP subjects scored below the 50th percentile in their respective groups. Results indicated that the anorexic and WP groups are comparable on several psychological dimensions: body dissatisfaction, perfectionism, and maturity fears. At the same time, anorexic subjects scored higher than WP subjects on sense of ineffectiveness which assesses self-concept and self-esteem, on interpersonal distrust, and interoceptive awareness. Researchers deviated from conventional practice however, and failed to report mean scores to allow examination of data.

Perhaps of greater importance were the comparative results between WP and NWP groups. Seven out of eight subscales yielded differences, with the WP group conveying the greatest disturbance. Researchers performed a two-cluster analysis to further examine the functioning of WP subjects, and WP subgroups were compared to the anorexic group. Results showed large variance within the WP group as was evident in an earlier study (Garner and Garfinkel, 1980). Cluster one consisted of N = 16 subjects who produced scores above the anorexic group on seven of eight subscales while the anorexic group maintained a higher mean score on ineffectiveness. In turn, cluster one scored consistently higher than cluster two (N = 22) on all subscales. Again researchers reported the significance of t test analyses, but only documented three-way analyses and F statistics in print.

Garner et al's (1983) findings have supported the comparability of several psychological traits between anorexic patients and weight-preoccupied (perhaps subclinically anorexic) females. At the same time they have emphasized that pursuit of thinness does not in itself guarantee personality disturbance, nor does it guarantee any degree of psychopathology. Evidence has supported the conceptualization of

anorexia along a continuum where only quantitative differences separate the anorexic from weight-preoccupied person on a number of psychological traits. Results have also documented that for anorexic subjects, an 'overwhelming sense of ineffectiveness' clearly distinguishes them from their weight-preoccupied cohorts. In turn ineffectiveness distinguishes the weight-preoccupied from normal comparisons. It may be that this factor is more unique, and more capable of discriminating the anorexic from the weight conscious dieter. Concomitantly, the degree of perfectionism manifested by both the anorexic and weight-preoccupied groups warrants attention. When aimed at weight loss, such a quality is potentially dangerous. It may be that some of its dynamics reflect similarities with the obsessive-compulsive symptom that Garner and Garfinkel (1980) highlighted between anorexics and highly weight-conscious individuals. In any case, both demand attention.

In sum, research has emphasized that weight as an issue and a concern is common in society. In itself however, such a phenomenon cannot alone predict anorexia. Variables like low self-esteem and motivation towards perfection require examination. This is particularly crucial given that these, when combined with issues of weight, may maximize risk for the development of anorexia nervosa. In accordance with these statements, this study will pinpoint normal weight subjects who experience weight-related concerns comparable to anorexic persons, and will assess variables of self-esteem, perfectionism, and obsessive-compulsiveness, to name a few. Similar to the research which has been presented, the author will select a group of weight-preoccupied subjects on the basis of attitudes toward weight and eating. However, given that concerns regarding weight will not alone predict or pinpoint

risk for anorexia, personality variables such as those identified above, will also be examined. The factors to be examined are drawn directly from the research under review.

Garner, Olmsted, Polivy, and Garfinkel (1984) extended the previous research and attempted to distinguish persons with anorexia from extreme dieters, on psychological functioning. They purported that psychological traits in combination with behavior, could differentiate different levels along the continuum of weight concern and disturbance. They further purported that this would be valuable in the prediction of anorexia. Although the researchers did not address the possibility specifically, any divergence between anorexic, weight-preoccupied, and not weight-preoccupied persons, would be important for the identification of meaningful risk factors worth investigation. The methodology for group selection was identical to the previous study (Garner et al, 1983), and subjects/groups were similarly drawn from populations of anorexic patients, ballet dancers, and undergraduate college students. In addition, they utilized a control which was absent in the previous work. To control for subjects in the weight-preoccupied group being diagnostically anorexic, they drew a random sample of weight-preoccupied and not-weight-preoccupied subjects. Subjects received a clinical interview by a psychologist blind to group membership and respective 'drive for thinness' scores. Any subjects diagnosed anorexic were removed from study. In total, $\underline{N}$ = 50 female anorexic patients functioning at various stages of illness were assessed, $\underline{N}$ = 35 females classified as weight-preoccupied, and $\underline{N}$ = 134 not weight-preoccupied females. All subjects completed the Eating Disorder Inventory (EDI) (Garner et al, 1983).

Findings from the above study supported previous research (Garner et al, 1983) and identified similarities between the anorexic and weight-preoccupied groups. These similarities went beyond behavioral and attitudinal concern with weight and diet. Anorexic patients and weight-preoccupied persons showed no differences on psychological variables of perfectionism and maturity fears. In comparison t-test analyses revealed more disturbance in both groups when compared to the not weight-preoccupied. Actual values were not published, however, and researchers utilized non-conventional levels of significance. On 'sense of ineffectiveness' the anorexic group scored higher than the weight-preoccupied group, while the weight-preoccupied group scored higher on ineffectiveness than the not weight-preoccupied comparisons. All EDI subscales with the exception of interpersonal distrust yielded markedly greater mean values for the weight-preoccupied versus not weight-preoccuied groups.

Garner et al's (1984) research has supported earlier contentions claiming that psycholopathology and certain personality disturbances precede anorexia nervosa. In that sense, they may be considered as potential risk factors for anorexia (Casper, 1983; Huon and Brown, 1984; Solyom, Freeman, and Miles, 1982). A combination of high drive for thinness, body dissatisfaction, sense of ineffectiveness, perfectionism perhaps reflecting an obsessional and consuming motivation toward thinness, and maturity fears, have been shown to be characteristic of anorexia. Concomitantly, these same factors have been shown to differentiate weight-preoccupied and not weight-preoccupied female persons. What is suggested by these findings is that weight-preoccupied persons represent a mild or subclinical form of anorexia. Secondly, such

persons may be at risk for the development of clinical anorexia. A particular configuration of behavioral and psychological traits are not limited to the chronic anorexic, and some weight-preoccupied persons resemble anorexic persons beyond a superficial level of dieting behavior and attitudes. That, of course is the main underlying conception for the present study.

Although the patterns which have emerged are valuable to guide further study, Garner et al (1984) did delimit their research and results. They failed to provide complete statistical findings. In addition, they deviated from conventional standards used for significance testing and measurement of group differences.

Research presented thus far has supported the conceptualization of anorexia along a continuum of degree of disturbance. Results have identified essential similarities between anorexics and a growing number of young women in current western society. Research has also shown that a growing and alarmingly large number of females experience excessive and clinically significant preoccupation with weight without meeting the criteria for anorexia nervosa (Garfinkel, 1981; Herzog, Pepose, Norman, and Rigotti, 1985; Leichner et al, 1986; Pumariega and La Barbera, 1986; Striegal-Moore, Silberstein, and Rodin, 1986; Swift and Stern, 1983; Vandereycken and Meerman, 1984). The possibility exists that these numbers represent subclinical manifestations of anorexia, or rather, dangerous proportions of persons at risk for anorexia. Garfinkel and Garner (1983) substantiated this claim and have stated that "in any population there will be a group of individuals at risk for anorexia nervosa because of the presence of a specific combination of predisposing factors . . . Anorexia Nervosa is a final common pathway,

the product of a group of interacting forces" (p. 3).

The study of behavioral, psychological, and other personality characteristics suspected as risk factors has potentiated an appreciation for the multiplicity of factors related to anorexia. It has also enabled researchers to identify specific variables for further considerations, and for researchers and professionals to consider possibilities for intervention - prior to the onset of anorexia nervosa. Since "the risks of future psychological impairment in women who experience extreme shape dissatisfaction [still] awaits empirical investigation" (Garner et al, 1984, p. 264), understanding the dynamics of anorexia has become more necessary. Effective intervention at a pre-anorectic stage requires knowledge of specific and meaningful risk factors in the development of anorexia. A viable means is through research similar to that which has presented where groups of persons at lesser degrees on the continuum are studied. Research which has utilized such populations, regardless of being limited and incomplete, have identified specific psychological/ personality factors like sense of ineffectiveness and obsessive-compulsiveness. These factors have been shown to reflect similar trends between anorexic and weight-preoccupied persons, and different, when compared to normal peers. It is to these specific factors that the current study will address itself. Weight-preoccupied and normal comparison subjects will be assessed on obsessive-compulsiveness and self-esteem, and on the psychological constructs identified on the Eating Disorder Inventory. All factors have been empirically associated with clinical anorexia, and the author intends to identify whether and to what degree they are manifest at a subclinical point along the anorexia continuum.

C. Self-Esteem

Sound empirical research on variables such as self-concept, esteem, and self-image, in relation to anorexia nervosa, has been both of poor quality and limited in quantity. The assessment of these factors in populations considered a risk for anorexia, or in populations functioning at different and less extreme points along the continuum, are practically non-existent. Weinreich, Doherty, and Harris (1985) have acknowledged that "although self-concept and identity development have been widely commented upon in relation to anorexia nervosa ... very little empirical research on these topics has been reported" (p. 293). More recently, Baird and Sights (1986) stated that "despite the extent of material written about these [eating] disorders in recent years, no one has specifically focused on the issue of self-esteem" (p. 449). In fact, examination of the research which has assessed self-esteem, indicates that knowledge is weak and of limited impact. Researchers have tended to utilize subjects who are chronically or acutely anorexic, comparison to non-chronic or subclinical anorexics has been limited to one study in particular, and sample sizes have been variable to small within individual studies (Casper, 1981; Huon and Brown, 1984; Weinreich, Doherty, and Harris, 1985; Woods and Heretick, 1983).

While low self-esteem or disturbance in regard to self-concept do not alone explain the development of anorexia, it has been suggested that these may be part of a constellation of factors that put one at risk for anorexia (Baird and Sights, 1986; Strober, 1981). Casper (1983) reported that persons who develop anorexia lack a stable self-concept and secure self-regard in adolescence, and that these factors predispose persons to "use thinness in a misguided strife for individuation" (p.

387). Conceptually Casper's statements support the theory that one's body represents a guarantor of identity (Erikson, 1980). As well, the statements are consonant with the reality that in current western society, having the 'right kind of body' guarantees membership into a group of attractive persons; attractive as commensurate with self-worth (Lawrence, 1984). Researchers have further emphasized that "in any condition where the primary symptom is an attempt to change one's body, we would expect to find an underlying dynamic concerned with the need to set out to manipulate an identity" (Lawrence, p. 203). Identity per se is reported to be associated with and inextricably bound to one's self-concept, sense of self, and personal effectiveness (Bruch, 1977, 1978, 1981). In this study, persons pinpointed as at risk for the development of anorexia, and their normal peers, will be assessed by an instrument designed to measure self-esteem specifically, and by the Eating Disorder Inventory which provides an indice of sense of effectiveness. This study will address whether level of self-esteem and self-concept are part of a myriad of factors which put one at risk for clinical anorexia.

Woods and Heretick (1983 - 1984) acknowledged the absence of systematic investigation which addressed concepts of personal effectivness and self-concept in relation to anorexia nervosa. Like Strober (1982), they recognized that while Bruch (1973) had earlier proposed low self-concept and self-esteem to be part of a dynamic formulation integral to the development of anorexia, objective data remained sparse. They compared $\underline{N}$ = 10 anorexic persons, $\underline{N}$ = 10 obese persons, and $\underline{N}$ = 10 normal controls on a measure of personal effectiveness and self-esteem. Recognizing that research had too often

utilized chronic and hospitalized patients, they used non-hospitalized anorexic and obese subjects who were all members of weight-related support groups. The normal controls consisted of nurses and aides; all were members of an occupational support group. Groups were matched on age, height, and education; they were assumed to differ only in weight and eating behaviors. The Barron Ego Strength Scale (Barron, 1953) was administered to all subjects as a self-report measure of self-esteem, self-confidence, and sense of personal effectiveness. Results showed that although the anorexic and obese groups did not differ, normal controls scored higher than the anorexic group.

Woods' and Heretick's (1983 - 1984) results have suggested that persons with anorexia experience difficulties with self-esteem. They have not indicated whether, and to what extent, low self-esteem precedes or follows the onset of anorexia. By studying persons at less extreme/acute levels on the continuum of disturbance, they have indicated that low self-esteem is somehow connected to anorexia regardless of whether persons function at chronic, acute, or less extreme levels of illness. In itself this has extended previous work where subjects have tended to be drawn exclusively from the extreme end of the continuum (Casper, 1981; McLaughlin, Karp, and Herzog, 1985; Weinreich, Doherty, and Harris, 1985). However, the design was limited. Sample sizes were small and heterogeneous, and there were no comparisons to persons at subclinical or at risk levels on the continuum. Results of the study do not indicate whether low self-esteem is similarly shared by persons potentially at a pre-anorectic stage. Further, results do not indicate whether low self-esteem can be considered a risk factor for the development of anorexia nervosa. Accordingly, the author will direct

this study specifically toward this, and will draw from the limitations of past research. This study will assess whether low self-esteem as evident in anorexic persons, is similarly evident in subclinically anorexic persons or persons at risk for anorexia. In this sense the author will examine whether low self-esteem can be identified as a risk factor for the development of anorexia. If so, the study will facilitate knowledge that is necessary to successfully intervene prior to the onset of clinical anorexia.

Huon and Brown (1984) have remained the only researchers to specifically address the role of psychological constructs in the development of anorexia nervosa. They recognized that fear of weight gain, and concern with diet and weight, are central to anorexia. They also recognized that these features are shared by a large number of normal peers. In that sense, issues regarding weight cannot in themselves identify those at risk for anorexia. Similarly, they do not meaningfully discriminate between the person who diets toward anorexia and the person who diets and does not approach anorexia.

Huon and Brown (1984) compared N = 25 female anorexic patients to N = 25 female high school students classified as 'frequent weighers', and similar N = 25 students classified as 'infrequent weighers'. The latter two groups were matched in their desire for weight change, but the frequent weighers were considered potentially at risk for anorexia on the basis of 'anorexic-like' behavior. All subjects completed a questionnaire designed by the authors to measure variables clinically associated with anorexia. Results showed that self-esteem was the only psychological variable to by itself differentiate anorexics from frequent and infrequent weighers, F (1, 70) = 20.69, p < .001. There did

not appear to be a significant difference between infrequent and frequent weighers on self-esteem although the latter group produced a mean score between the anorexic and infrequent weigher groups. Mean values were reported as $\underline{M}$ = 1.4, $\underline{M}$ = 1.7, and $\underline{M}$ = 1.9 respectively.

The research presented by Huon and Brown (1984) marked the first empirical attempt to measure self-esteem in persons functioning at differing levels on the continuum of eating and weight disturbance. Given that it is impossible to recapture the details of the previous lives of anorexic persons, they emphasized the necessity to assess people at variable points along the continuum. The results obtained did not yield marked differences between the non-patient groups on self-esteem. These subjects were said to differ only in frequency of weighing, and in this sense the delineation of those 'at risk' would be stronger had they also manifested other anorexic-like behaviors. Their design was delimited by not selecting a more differentiated group of subclinical or at risk for anorexia persons. Regardless, the research and results have been valuable. Results have indicated that although non-patient groups were not significantly different on self-esteem, there was a trend for those considered at risk, to experience lower self-esteem. Results support self-esteem as a possible risk factor for the development of anorexia nervosa. It is a logical progression then, that this study will examine self-esteem as an identifiable risk factor for the development of anorexia. The author will utilize a group of subjects who experience a number of anorexic-like behaviors and attitudes, and compare them to their normal peers. Groups will be compared to identify whether persons at risk for anorexia manifest markedly lower self-esteem.

D. Obsessive-Compulsive Characteristics

Similar to the research which has focused on self-esteem, empirical studies on obsessive-compulsiveness using non-chronic anorexics functioning at less extreme levels on the continuum, are limited to one published work (Strober, 1980). However despite not having utilized persons considered subclinical or at risk for anorexia, Solyom, Freeman, and Miles (1982) purported that "many anorexics manifest obsessive-compulsive personality traits and obsessional symptoms [which] in many cases ... antedate the onset of anorexia" (p. 282). Obsessive-compulsiveness has thus been postulated as a potential risk factor in the development of anorexia. Researchers have initiated its investigation and it will be given attention in this study.

Solyom, Freeman, and Miles (1982) postulated that the identification of and degree of obsessive-compulsive personality characteristics are fundamental to the amount of risk for development of anorexia. They noted the extent and universality of dieting and dissatisfaction with weight that is pervasive in society, and suggested that an obsessive personality may interact with this to produce anorexia. To identify whether clinically anorexic persons manifest characteristics of an obsessive personality they compared $\underline{N}$ = 15 anorexic patients to $\underline{N}$ = 14 patients classified as obsessive-compulsive. The groups were matched for age, gender, duration of illness, and age at onset. All measures were administered prior to hospital treatment. Subjects completed two self-assessment forms which included rating the presence and degree of obsessive traits and symptoms, they were rated by a psychiatrist on obsessive symptoms, and all were administered the Leyton Obsessive Inventory (LOI) (Cooper, 1970) designed to measure

obsessive traits and symptoms.

Results of Solyom et al's (1982) study showed no differences on all the above-mentioned indices except for the psychiatric rating where it was reported that the obsessive group experienced markedly more disturbance. What the research has suggested is that many clinical anorexics display obsessive personalities similar to patients diagnosed as obsessive-compulsive. This was evident despite the absence of food and weight related items on the measures administered. The authors further suggested that the degree of obsessive-compulsiveness may relate to the amount of risk to those preoccupied with weight but not-yet anorexic. It may also relate to the prognosis for those diagnosed as clinically anorexic. Results, while not having specifically addressed a non-clinical or at risk population of anorexics, yielded insight into the possible role of obsessive-compulsiveness as a risk factor for anorexia nervosa. Accordingly, this study will examine obsessive-compulsiveness as a potential risk factor for the development of anorexia.

Research which has assessed obsessive-compulsiveness in relation to anorexia, and has used subclinical or at risk populations, has been non-existent. Similarly, research using non-chronic anorexic populations has been extremely limited. Strober's (1980) investigation marked the lone reported empirical attempt to study obsessive-compulsive characteristics in young and non-chronic anorexic persons. Non-chronic persons are assumed to function at a less extreme point along the continuum of disturbance although more extreme than those considered to be subclincial (Strober, 1980, 1981; Swift and Stern, 1983). Results of Strober's study are delimited however in that comparison groups were

drawn exclusively from psychiatric populations; normal controls were not utilized.

Strober (1980) studied N = 22 first hospitalization anorexics, N = 22 affective disorder, and N = 22 conduct/personality disturbance patients. Groups were matched on gender, age, and on anorexics' premorbid normative weight. A variety of instruments were administered during the second week of hospitalization and again for the anorexic group only, during the sixth month of hospitalization. The Leyton Obsessional Inventory (Cooper, 1970) and Symptom Checklist (Derogatis, Lipman, and Covi, 1973) were two instruments in particular; both provided indices of obsessive-compulsiveness. Statistical comparisons between groups showed that anorexics scored higher than affective and conduct disordered groups on obsessional traits and symptoms as measured by the Leyton Obsessional Inventory. Similarly anorexics scored higher than conduct disordered on compulsive symptoms on the Symptom Checklist. What these findings reveal is that persons who function at the extreme end on the continuum of weight concern, and are diagnosed as clinically anorexic, manifest characteristics of an obsessive-compulsive personality. Results do not as such allude to the existence of such characteristics at a less extreme or subclinical point along the continuum.

Strober (1980) then readministered the above-mentioned instruments to the anorexic group following weight-restoration. Dramatic declines in obsessional symptomatology on both measures were reported, while mean differences in obsessional trait scores were negligible. Results are valuable for the consideration of obsessive-compulsive traits as factors which may put one at risk for anorexia. However Strober failed to

provide the statistical data. What Strober's results have suggested, are that non-chronic anorexic persons manifest marked obsessional traits which are stable regardless of actual weight. When subjects returned to premorbid weight levels, obsessional character traits remained. While the research has indicated that obsessive-compulsive traits are part of a configuration of personality characteristics reflective of anorexia, they do not permit conclusions regarding predisposition to anorexia. There has been no research reported, to indicate that such characteristics are manifested prior to any weight loss or preoccupation with diet and weight. Similarly there has been no research reported to indicate whether obsessive-compulsive traits may be determinants or byproducts of anorexia. It follows then that it has remained impossible to document obsessive-compulsive characteristics as definitive risk factors in the development of anorexia. Strober's study is noteworthy however in that it "serves as a springboard for future research aimed at identifying factors that are antecedent to the onset of [anorexic] illness" (p. 359). This study will continue where Strober's work finished, and will attempt to identify whether obsessive-compulsive characteristics are part of a configuration of factors which put one at risk for anorexia.

E. Integration and Hypothesis

The author of the present study has maintained the theory that anorexia nervosa operates along a continuum between normal dieting and having a potentially fatal eating disorder. Further, the examination of weight-related issues in isolation does not adequately and meaningfully differentiate groups on psychological traits and functioning. By

utilizing a population of subclinical anorexics with scores comparable to anorexic persons on eating/weight issues, and having compared them to normal controls, the author assessed the personality of subjects at risk for anorexia. In addition to factors potentially characteristic of anorexia (measured by the Eating Disorder Inventory; Garner et al, 1983), self-esteem and obsessive-compulsiveness were examined. The latter two factors were postulated as fundamental to provoke or prevent the induction of clinical anorexia nervosa. It was hypothesized that subclinical anorexic persons experience lower self-esteem and greater obsessive-compulsive characteristics in relation to normal, comparison subjects. These two factors when combined with behavior and weight-related disturbances, put one at risk for the development of anorexia nervosa.

III. METHOD AND PROCEDURE

A. Introduction

The following chapter provides a detailed account of the research design and the particular research being presented. Subjects are described, as are the procedures through which they are attained. The specific criterion used to determine group membership is delineated. In addition, the instrumentation and data collection procedure is explained in full.

B. Description of Subjects and Groups

Two independent groups of female subjects participated in this study. The specific groups were comprised of $\underline{N}$ = 25 weight-preoccupied persons (WP), and $\underline{N}$ = 25 normal comparisons (NC). The weight-preoccupied group was heterogeneous in that subjects were drawn from two possible sources. Firstly the author placed an advertisement in an urban, a rural, and a local college newspaper. The advertisement (see Appendix A) sought weight-preoccupied volunteers or rather persons preoccupied with the desire to lose weight, to participate in a research study. In addition the advertisement specified that the study was only intended for persons of average weight (relative to age, height, and sex). Normative weight data was defined by current statistics published by the Metropolitan Life Foundation (1983). Secondly and consistent with research reported previously, similar volunteers were requested from a population of first and second year dance students at a local community college. All persons who responded and agreed to participate, completed a series of self-report questionnaires. Volunteers who scored comparably

to the anorexic criterion established on the Eating Attitudes Test (EAT) (Garner and Garfinkel, 1979) were considered for the weight-preoccupied group. To control against any weight-preoccupied persons being diagnostically anorexic, any persons who had, or were, receiving treatment for an eating disorder, were excluded. Similarly, any persons who scored excessively high on the EAT or who met the criteria for anorexia specified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association, 1980), were excluded. This was evident in one instance and a variety of options for treatment were offered. In fact options for assistance and/or further education and learning, were offered to any subjects who so requested, although only one person responded.

Weight-preoccupied subjects from either source were comparable on gender, age, and respective EAT scores. Subjects were pooled to comprise one group of weight-preoccupied persons. A total of $N = 42$ persons volunteered to participate, $N = 25$ of these persons met the established criterion for group membership.

The normal comparison group consisted of a random sample of heterogeneous volunteers also drawn and pooled from two possible sources. Volunteers were requested to aid in a research study, and to complete a series of self-report questionnaires. Volunteers were specifically requested to match the volunteer status of the weight-preoccupied group. Sources for the normal comparison subjects were from an undergraduate class of university nursing students, and from an introductory class at the same community college as mentioned previously. The latter students were enrolled in programs of study which ranged between Business, General Arts, and Law Enforcement. Subjects who

completed the questionnaires, were of normal weight, and did not report a history or presence of an eating disorder, were considered for the normal comparison group. No persons met the established anorexic criterion specified on the EAT as significant, although this would not in itself have excluded them as subjects. A random sample of these persons was completed; groups were matched in total numbers of persons.

Subjects in the normal and weight-preoccupied groups were relatively matched to control for age, gender, and normative weight status. Subjects were all female in that no male persons met the established criterion for weight-preoccupied group membership. Subjects ranged in age between 17 and 43 years (M = 24.72) for the weight-preoccupied group, and between 18 and 42 years (M = 23.68) for the normal comparison group. The scores obtained on the EAT which were in part used to determine eligible group membership, were M = 40.08 for the weight-preoccupied group, and M = 10.64 for the normal comparison group respectively. Table I provides descriptive statistics for both groups on the EAT, and indicates significant group differences, $t(48) = 9.837$, $p < .001$.

- Table I -

- EAT Scores -

t-Test for Difference Between 25 Weight-Preoccupied Subjects and 25 Normal Comparison Subjects for the Eating Attitudes Test

	Mean	S.D.	t	df	p
Weight-Preoccupied	40.08	13.34			
Normal Comparisons	10:64	6.79			
			9.837*	48	.0001

*$p < .001$

C. Procedure

The present study was explained to all participants as an examination of personality characteristics and attitudes toward food and eating. Informed consent was obtained from all subjects prior to data collection, and subjects were given the opportunity to not participate if they elected to do so. The participants were asked to identify themselves on the questionnaires and to indicate their gender, age, weight, and the existence or history of weight-related difficulties or an eating disorder. Subjects were assured that their identities would remain anonymous and results would be confidential. Identification was

collected should follow-up be deemed necessary, or should feedback have been requested. In one instance an exceedingly high EAT score necessitated follow-up to provide suggestions and options for treatment. This particular volunteer was excluded from participation. In two other instances subjects requested verbal follow-up on total results obtained.

The subjects completed the series of questionnaires either in a classroom setting or individually. This depended on their availability to participate. The subjects in the weight-preoccupied group were offered an option of different times to meet with the researcher in a group setting. Approximately half of the weight-preoccupied subjects were able to do so. Of the remaining weight-preoccupied subjects, questionnaires were mailed, and returned similarly. The majority of subjects in the normal comparison group completed the questionnaires in a classroom setting. Approximately one third of the subjects completed the forms individually and returned them at a later date. This too depended upon the availability of participants, and their respective time schedules. The data collected from subjects in both groups was usable. All questionnaires were completed adequately.

D. Instruments

The following instruments were used to assess personality characteristics and functioning, and attitudes and behaviors related to weight and eating:

Eating Attitudes Test (EAT) (Garner and Garfinkel, 1979). The EAT is a 40-item self-report measure to assess behaviors and attitudes toward eating and weight that are characteristic of anorexia nervosa. It has been used frequently in the research on eating disorders and has

been reported as valuable in the identification of persons considered at risk for anorexia (Button and Whitehouse, 1981; Garner and Garfinkel, 1980; Pumariega and La Barbera, 1986). Researchers have suggested that the EAT is effective to reliably identify persons who experience significant concerns about their weight, and abnormal attitudes toward eating (Leichner et al, 1986). It has been reported to be useful to identify attitudes suggestive of actual, incipient, or early developing cases or anorexia. Further, it has been reported to be useful to screen for and intervene in subclinical or high risk cases. A value of 30 and above has been reported by the authors to delineate an anorexic range worthy of further investigation.

The EAT is considered an objective self-report measure with sound psychometric properties. It possesses an overall concurrent validity coefficient of .72, which suggests that EAT scores are good predictors of clinical diagnosis. It possesses high predictive validity for group membership ($r = .87$, $p < .001$), discriminant validity of 84.9% for cases correctly classified (patients and normal controls), and internal consistency coefficients of $r = .79$ for anorexic subjects and $r = .94$ for a pooled sample of anorexic and normal controls. In total it took between 5 and 10 minutes for subjects to complete, and was scored according to the method outlined by Garner and Garfinkel (1979). Subjects responded on a 6-point likert scale ranging from always to never on how well the item applied. Responses yielded 3 points for an extreme response in the anorexic direction. Adjacent alternatives yielded 2 points and 1 point respectively.

Eating Disorder Inventory (EDI) (Garner, Olmsted, and Polivy, 1983). The EDI is a 64-item self-report multiscale measure designed to

assess psychological and behavioral traits common to eating disorders. It has been used successfully in the past to differentiate anorexics from extremely weight-conscious persons and normal dieters (Garner, Olmsted, and Garfinkel, 1983; Garner, Olmsted, Polivy, and Garfinkel, 1984). Subjects completed the EDI in approximately 20 minutes and responded to each item according to how well the items applied to them. Responses ranged between always and never on a 6-point forced choice scale; 3 points were awarded to an extreme response in the anorexic direction while adjacent alternatives received 2 and 1 point respectively. The EDI is comprised of eight subscales each of which yields a particular score. Scale scores are obtained by the summation of all item scores for each scale. Subscales include: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears. All scales are said to describe meaningful features of anorexia as well as to be useful in identifying subtypes of anorexia (Eberly and Eberly, 1985).

The EDI is reported to possess sound psychometric characteristics. Criterion-related validity has indicated that it correctly classifies groups (anorexics and female college comparisons) between 87% and 93% for all subscales. Correlations between anorexic patients' subscale scores and clinicians' ratings show all to be significant at the $p < .001$ level. Correlations of subscale scores with several psychological tests, support that it possesses adequate convergent and discriminant validity. In terms of reliability, internal consistency coefficients are reported to be above $r = .80$ for all subscales when anorexic subjects were assessed, and between r .65 and $r = .91$ for female college

comparisons.

Index of Self-Esteem (ISE) (Hudson and Proctor, 1976). The ISE is a 25-item self-report questionnaire used to assess the presence of a problem with self-esteem. Subjects responded to each item by rating whether the item applied to them rarely or none of the time, a little of the time, sometimes, a good part of the time, or most to all the time. Subjects received scores anywhere from one to five on each item; five being awarded for the most extreme response in the direction of low self-esteem, and one for a response least indicative of low self-esteem. Thirteen of the items were worded in the direction of low self-esteem while the remaining twelve items were worded in a positive direction. This was designed to control for any response sets by the subjects. The ISE yielded a total score which was obtained by a simple formula. The fourteen items which were worded positively were reverse-scored to obtain their respective values. The negatively-worded items were added as they were. A total sum was obtained and a value of 25 was subtracted from the total sum. This produced a composite ISE score where scores ranged from 0 -100. A clinical criterion of 30 was reported by the authors to indicate difficulty and problems with self-esteem. In total the ISE was completed by subjects within three to five minutes.

The ISE is reported to possess excellent reliability, with a mean split-half coefficient of $r = .86$, and a test-retest coefficient of $r = .92$. The discriminant validity is indicated by a correlation of $r = .78$ between ISE scores and criterion group status. Construct validity is supported by correlations made with several other psychological instruments as well as by a correlation coefficient of $r = .80$ with subjects' self-reported ratings of self-esteem (Hudson and Proctor,

1976; Abell, Jones, and Hudson, 1984).

Obsessive-Compulsive Subscale: Symptom Distress Checklist (SCL) (Derogatis, Lipman, and Covi, 1973). Subjects completed the entire 90-item self-report SCL in approximately 20 minutes. For purposes of this study, only the 10 items on the obsessive-compulsive dimension were scored. The items are reported by the authors to assess behaviors and cognitions identified in the clinical syndrome of the same name. In addition the dimension reflects thoughts, impulses, and actions that are experienced as unremitting and irresistible by the individual. Items do not draw mention to any eating or weight-related stimulus.

In order to not interfere with the psychometric properties possessed by the SCL, the items under study were not altered or removed from their original and intended context. Subjects responded to each item on a 5-point scale of distress, and indicated whether each item applied to them not at all (0), a little bit (1), moderately (2), quite a bit (3), or extremely (4). Scores on the 10 particular items were summed; mean obsessive-compulsive values were calculated for all subjects. The mean score obtained reflected degree of obsessive-compulsiveness experienced by each subject.

The SCL is itself described as empirically established and valid. It has been utilized by clinicians and researchers with various different populations, and has been promoted as useful for researchers to investigate non-psychiatric and normal populations (Derogatis et al, 1973; Derogatis, Rickels, and Rock, 1976; Rickels, Garcia, Fisher, and Fisher, 1971). Dinning and Evans (1977) have suggested that it may be more useful as a screening device to identify and then refer, for any experienced difficulties. Psychometrically the obsessive-compulsive

dimension in itself possesses sound qualities. It is reliable, and possesses an internal consistency coefficient of $r = .86$. In terms of the total SCL, test-related reliability is reported as $r = .76$. Correlations between the SCL dimensions and other analogous measures, show its convergent validity to be adequate. Although the obsessive-compulsive dimension was not directly comparable to the measures used, correlation with a scale considered to represent the most analogous symptom measure, was $r = .54$, $p < .01$. The SCL possesses the ability to discriminate between neurotic and normal populations, and able to detect differences in distress levels within non-neurotic and normal populations.

IV. FINDINGS AND CONCLUSIONS

The contention of this researcher has been that persons who are preoccupied with weight and weight loss, may be at risk for the development of anorexia nervosa. They are hypothesized to function somewhere along the continuum between normal dieters and persons with clinical anorexia nervosa. While a great majority of persons experience concern and dissatisfaction with weight, a subgroup of persons has been identified who experience concern with weight and eating, comparable to persons with clinically diagnosed anorexia. This particular subgroup has been referred to as subclinically anorexic.

A. Hypotheses, Analysis, and Conclusions

The current study was addressed to the following questions: If certain identifiable persons are at risk behaviorally and attitudinally for anorexia, do they also possess personality characteristics that put them at risk for anorexia? Can they be differentiated from their normal peers in behavior and attitudes toward food and eating, and also in terms of personality functioning? By identifying persons considered subclinically anorexic on the basis of eating and weight concerns, and comparing them to normal peers, the author addressed these questions. A series of two-tailed independent *t*-tests were conducted to statistically compare weight-preoccupied and normal comparison groups. Groups were assessed and compared on behavioral/attitudinal factors characteristic of anorexia, and on self-esteem and obsessive-compulsiveness which are postulated as potential and meaningful risk factors for the onset of clinical anorexia. The hypotheses tested were that in addition to the possession of behavior and weight-related disturbances, subclinical

anorexic persons experience lower self-esteem and greater obsessive-compulsive characteristics in relation to normal comparisons.

The reporting of results follows a consistent form for each specific hypothesis. The hypotheses are restated, pertinent statistics are illustrated, and appropriate conclusions are presented.

B. Hypothesis 1

Weight-preoccupied or subclinical anorexic persons experience greater eating and weight-related disturbances than normal comparisons, and display greater psychopathology on psychological traits found to be associated with anorexia nervosa.

To test Hypothesis 1, means and standard deviations were calculated. Then a t-test for differences was performed. The results of these computations appear in Table II.

- Table II -

t-Test for Difference Between 25 Weight-Preoccupied Subjects and 25 Normal Comparison Subjects for the Eating Disorder Inventory

EDI Subscales	Weight Preoccupied M	S.D.	Normal Comparison M	S.D.	t	p
Drive for Thinness	13.6	4.10	2.32	3.36	10.631	.0001***
Bulimia	5.52	4.31	.96	1.43	5.019	.0001***
Body Dissatisfaction	16.76	7.60	7.52	5.9	4.803	.0001***
Ineffectiveness	6.84	6.72	1.92	4.0	3.148	.0028**
Perfectionism	7.24	4.90	4.40	3.45	2.369	.0219*
Interpersonal Distrust	3.44	2.57	2.40	3.69	1.158	.2527 N.S.
Interoceptive Awareness	6.04	5.26	1.76	2.92	3.555	.0009***
Maturity Fears	3.68	5.194	1.96	4.36	1.268	.211 N.S.

*p < .05 **p < .01 ***p < .001

C. Conclusion

As can be seen from Table II, the weight-preoccupied group scored higher than the normal comparisons on all eight EDI subscales. It can also be observed that six of the eight contrasts reached statistical significance. In terms of eating and weight-related disturbance, the

weight-preoccupied group scored dramatically higher on drive for thinness, t (48) = 10.631, $p < .001$, behavioral tendencies for Bulimia, t (48) = 5.019, $p < .001$, body dissatisfaction, t (48) = 4.803, $p < .001$, and the ability to accurately and confidently identify sensations of hunger or satiety, t (48) = 3.555, $p < .001$. On personality functioning, the weight-preoccupied group scored higher on sense of ineffectiveness, t (48) = 3.148, $p < .01$, and on personal expectations for perfection, t (48) = 2.369, $p < .05$.

D. Hypotheses 2

Subclinical or weight-preoccupied persons possess lower self-esteem in relation to normal comparisons, as measured by the Index of Self-Esteem.

To test Hypothesis 2, means and standard deviations were calculated. Then a t-test for differences was performed. Results of these computations are illustrated in Table III.

- Table III -

t-Test for Difference Between 25 Weight-Preoccupied Subjects and 25 Normal Comparison Subjects for the Index of Self-Esteem

	Mean	S.D.	t	df	p
Weight-Preoccupied	42.4	16.68			
Normal Controls	27.32	12.28	3.64*		
				48	.0007

*$p < .001$

E. Conclusion

As can be seen from Table III, the results support Hypothesis 2. The weight-preoccupied group produced a mean value of 42.4 on the Index of Self-Esteem. This score on the index, Hudson and Proctor (1976) report, indicates difficulty and clinically meaningful low self-esteem. The normal comparisons scored differently from the weight-preoccupied group, t (48) = 3.64, p .001, and yielded a mean value of 27.32. The normal comparison group score does not meet the specified criterion for difficulty and low self-esteem.

F. Hypothesis 3

Subclinical anorexic and weight-preoccupied persons possess greater obsessive-compulsive personality characteristics in comparison to their normal peers.

To test Hypothesis 3, means and standard deviations were calculated. Then, a t-test for differences was performed. Results of these computations are illustrated in Table IV.

- Table IV -

t-Test for Difference Between 25 Weight-Preoccupied Subjects and 25 Normal Comparison Subjects on a subscale of Obsessive-Compulsive Characteristics

	Mean	S.D.	t	df	probability
Weight-Preoccupied	18.44	7.89			
Normal Controls	11.40	6.01			
			3.55*	48	.0009

*p .001

G. Conclusion

As can be seen from Table IV, the weight preoccupied group possessed greater obsessive-compulsive characteristics than normal peer comparisons, t (48) = 3.55, $p < .001$. The weight-preoccupied group

yielded a mean obsessive-compulsive value of 18.44 which was substantially greater than the value of 11.40 obtained by the normal comparisons. On the basis of the statistical analysis, Hypothesis 3 was supported.

H. Summary

Examination and analysis of the research data revealed the following findings.

There were statistically significant differences between the weight-preoccupied and normal comparison groups on concerns and attitudes regarding eating and weight. Similarly, differences were shown on psychological traits which have been associated with anorexia nervosa. The eight subscales on the Eating Disorder Inventory were designed to assess psychological and behavioral traits common and important in the syndrome of anorexia nervosa. Comparisons between the weight-preoccupied and normal comparison groups support the hypothesis that weight-preoccupied persons experience greater eating and weight-related disturbance than their normal peers. In addition, weight-preoccupied persons display greater degrees of psychopathology associated with anorexia nervosa than do their normal peer comparisons.

Results from the single personality variables of self-esteem and obsessive-compulsiveness, provided support for Hypothesis 2 and Hypothesis 3 respectively. Statistically significant findings revealed that weight-preoccupied persons experience markedly lower self-esteem than their normal peers, and substantially greater characteristics of an obsessive-compulsive personality. The weight-preoccupied group yielded a mean self-esteem value that is considered indicative of clinically

significant levels of low self-esteem. On obsessive-compulsive characteristics, the weight preoccupied group possessed a degree of obsessive-compulsiveness that far exceeds that of their normal peers even in the absence of eating or weight-related issues.

In total, results provide rather conclusive evidence that persons who are preoccupied with weight and weight loss are different from their normal peers in clinically meaningful ways. Although both groups function within a normal weight range, results show that the weight-preoccupied group experiences greater degrees of weight-related and personality disturbances that have previously been associated with anorexia nervosa. Results provide support for the assessment of eating and weight-related concerns, as well as for the assessment of personality characteristics such as self-esteem and obsessive-compulsiveness, to identify possible at risk cases for anorexia. The following chapter provides a discussion of the findings which have been presented, as well as the implications of the findings for practice and further research.

V. DISCUSSION AND IMPLICATIONS

A. Discussion and Commentary on Results

Understanding the dynamics of anorexia, and being able to delineate fundamental disturbances as well as meaningful risk factors for anorexia, requires a multidimensional perspective. The results of this study emphasize that preoccupation with weight, although a "cardinal feature" of anorexia nervosa (Garner, Olmsted, Garfinkel, 1983), and those potentially at risk for anorexia nervosa, cannot alone explain or predict the onset of an eating disorder. By comparing persons considered at risk for anorexia, to normal peers, the researcher assessed behavioral, psychological, and personality traits assumed to be fundamental to the development of anorexia. While the weight-preoccupied subjects and the normal comparison subjects all existed within an average weight range, results revealed very definite group differences on specific factors. These differences are particularly important in that they show weight-preoccupied persons to possess characteristics previously associated with clinical anorexia. In this sense, the identification of these specific factors may prove invaluable, to pinpoint 'risk' for anorexia.

The weight-preoccupied subjects exemplified excessive concern and dissatisfaction regarding weight and shape. Unlike anorexic persons however, they had not, or had not yet, become entrenched in dangerous weight loss. These results provide support for the continuum hypothesis which the author documented earlier (Garner et al, 1983; Garner et al, 1984). It seems that concerns and disturbances regarding weight and weight-related issues, spans a continuum of varying degrees. While a

majority of female persons experience some concern with weight and bodily configuration, a lesser number experience the more extreme concerns as indicated by the weight-preoccupied subjects. Even fewer experience the extreme concern characterized by clinical anorexia (Swift and Stern, 1983). Results indicate that preoccupation with weight and weight loss are important criteria to differentiate persons considered at risk for anorexia from their normal peers. However, results have also revealed the existence of other meaningful differences. The identification of weight-related pathology alone, does not adequately differentiate these two groups.

Beyond concerns with weight and shape, weight-preoccupied persons experienced a greater sense of general inadequacy and insecurity than did their normal peers. Similarly they possessed a level of low self-esteem which has been associated with a need for professional intervention. Past researchers have tended to delimit their focus, and have often failed to provide extensive empirical assessment of self-esteem with both anorexic and subclinically anorexic populations. Nevertheless, low self-concept, low self-esteem, and sense of general ineffectiveness, have been described as fundamental disturbances in anorexia nervosa (Bruch, 1973; Garner et al, 1983; Garner et al, 1984; McLaughlin et al, 1985; Strober, 1980).

By comparing weight-preoccupied persons to a group of normal peers, results have provided support for the premise of this researcher that level of self-esteem may be critical to help explain risk for anorexia. If one recalls previous research, Garner et al (1983, 1984), showed that weight-preoccupied subjects do not experience the extreme sense of ineffectiveness that characterized their anorexic comparisons.

However they did experience substantially greater degrees of ineffectiveness and low self-concept, when compared to normal peers. Results of this current study have supported these previous findings. In this sense, self-esteem, similar to concerns regarding weight, appears to exist along a continuum of disturbance. By assessing for level of self-esteem, particularly when combined with the assessment of weight-related concern, successful identification of 'risk' for anorexia may be enhanced.

Finally, results provided support for the contention that assessment of obsessive-compulsive personality characteristics may be valuable in identifying risk for anorexia. Weight-preoccupied subjects experienced dramatically greater degrees of obsessive-compulsiveness than did their normal peer comparisons. These characteristics were evident beyond any focus on weight-related concerns. If we consider however that these unremitting and obsessional tendencies were to be focused toward diet, and if there was evidence of low self-esteem where personal worth was perceived to come from aesthetic body ideals, these risk factors in combination could prove to be lethal. In themselves the desire for weight loss, dissatisfaction with one's own body and shape, and the existence of low self-esteem or obsessive-compulsive characteristics, do not unequivocally equal anorexia. Similarly, in isolation these above factors do not explain nor equal, 'risk' for anorexia. However, when considered in combination, they may prove to be potentially dangerous. In that sense, both alone and in combination, these factors necessitate serious and immediate attention.

B. Implications for Practice

A primary implication arising from the results of this study, is that a very real and perhaps dangerously large number of persons, are potentially at risk for the development of anorexia nervosa. To the everyday observer, these persons appear normal, as they function within their normal weight range. What the observer does not see, is that they may in fact possess a myriad of less overt factors which could lead to the development of a fatal eating disorder.

Prevalence reports as cited earlier have indicated increases in the number of persons who develop anorexia. Similarly, we have been made aware of the fact that a dramatically large number of persons experience dissatisfaction and concern with weight and weight-related issues. Even persons at very young ages are reporting dieting behavior and weight-related concerns. Although this study has indicated that concern and dissatisfaction with weight does not unequivocally equal anorexia, practitioners cannot ignore the magnitude of these overt signs. Factors like low self-esteem, sense of ineffectiveness, and obsessive-compulsive characteristics, which combine with other factors to put one at risk for anorexia, are indeed critical. However they may be less readily observable, and we cannot afford to wait until they too become apparent. Practitioners must be prepared to identify and work with, any and all factors which might become visible. Prevention and amelioration of anorexia will require intervention with potentially numerable factors and issues. Altering the pattern of even one risk factor, may prove to be critical and even lethal.

What the results seem to suggest and demand, is that practitioners must shift their focus away from restorative models, and instead look

toward intervention. In struggling to 'cure' anorexia after-the-fact, we ignore persons who function at less extreme points along the anorexic continuum. In addition, we allow these less severe subclinical cases to continue to develop, and perhaps to reach a clinical level of disturbance.

While results have not delineated the course and outcome for those considered subclinically anorexic, we do know that positive outcomes for clinical anorexics, have been associated with early intervention. It may be that the most hope-filled option for practitioners, is to intervene and alter a potentially dangerous pattern, prior to the onset of clinical anorexia. These results confirm this above position clearly.

One potentially widespread option for invervention, is to promote the use of routine assessment. Perhaps assessment similar to that utilized in this study could prove invaluable. Given the potential lethality of anorexia itself, it does not seem unreasonable to advocate for routine assessment in schools for suspected risk cases. Further, it is the responsibility of practitioners to educate and inform the public on issues such as anorexia, inherent in what otherwise appears to be a normal dieter. Given the ubiquity of persons who experience varying degrees of weight-related disturbance, and the tragedies which may be at the extremes, practitioners should be willing and ready to act. Finally, these practitioners should be able to recognize that what equals risk for one, does not guarantee risk for another.

C. Implications for Further Research

The results of this study have served to extend the knowledge regarding risk factors for anorexia. Moreover, the results clarify some of the personality dynamics of persons at risk or subclinically anorexic. Research on subclinically anorexic populations has been limited. Therefore researchers should be encouraged to address this population. Similarly, it may prove interesting to delineate groups at a number of various points along the continuum between normal dieting and clinical anorexia. To compare groups and their functioning on a myriad of behavioral and personality factors could be a research direction. Likewise, the development of comprehensive and long-range analyses of different persons and groups along the continuum of weight disturbance could be a research direction. This might aid our understanding of the multifaceted nature of anorexia.

An additional implication arising from the results of this study, is that observable symptoms of weight and dieting behavior, are inadequate to explain risk for anorexia. Researchers need to adopt a mutlidimensional perspective regardless of whether they choose to focus upon clinical or subclinical anorexic populations. If one goal is to intervene prior to the onset of clinical anorexia, a focus on diet and weight alone would be inadequate. Therefore the development of screening instruments which include the assessment of numerable risk factors is advocated. Factors such as the ones identified in this study should all be incorporated when re-designing an effective screening instrument. If an instrument is designed to assess observable and weight-related symptoms in isolation, it may only target persons who function at extreme points along the weight disturbance continuum. Instruments are

needed which will target risk cases prior to extreme disturbance.

D. Concluding Statement

The implications of this study for both practice and research are powerful and life-saving. The ability to understand and identify risk factors could enable educators and practitioners to recognize potential pre-anorexics, and to intervene effectively. As researchers continue to investigate the dynamics between normal dieting and anorexia, and the behavioral, personality, and psychological components that characterize risk, assessment instruments can be constructed and revised. The implications of such devices for educators and clinicians may ultimately range from being able to ameliorate a growing phenomenon of eating disorders, to decreasing the number of its casualty victims.

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APPENDIX A

Newspaper Advertisement for Weight-Preoccupied Volunteer Subjects

WEIGHT LOSS?

Preoccupied with the desire to lose weight? If you are normal weight and interested please call 465-1572. Note: This is not a study involving obese or overweight people.